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Title:	Los Alamos National Laboratory Sitewide Monitoring Program Drinking Water Results for the City of Santa Fe Buckman Water Supply Wells
Author(s):	Robert Beers ENV-RCRA
Intended for:	Mr. Brian Snyder Water Division Director City of Santa Fe Santa Fe, New Mexico 87504

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DRAFT

Date:
Refer To: EP2010-XXXX

Mr. Brian Snyder, Water Division Director
Acting Public Utilities Division Director
Sangre de Cristo Water Division
City of Santa Fe
801 West San Mateo
P.O. Box 909
Santa Fe, New Mexico 87504

Subject: Los Alamos National Laboratory Sitewide Monitoring Program Drinking Water Results for the City of Santa Fe Buckman Water Supply Wells

Dear Mr. Snyder:

This report, prepared by Los Alamos National Laboratory (the Laboratory), provides the analytical results from the March 9, 2010, sampling of the City of Santa Fe's Buckman Wells Nos. 1, 6, and 8 for low-level tritium analysis. All results were below the U.S. Environmental Protection Agency (EPA) drinking water standards.

Routine monitoring of select Buckman water supply wells is conducted in accordance with the April 22, 2010, sampling and analysis plan cooperatively developed between the Laboratory and City of Santa Fe staff. Under this plan, Buckman Wells Nos. 1, 6, and 8 will be sampled quarterly by the Laboratory: twice per year for full-suite analysis (radiologicals [including tritium], general inorganics [including perchlorate], metals [including chromium], and organics); and twice per year for low-level tritium.

The attached CD contains the following items: (1) University of Miami Tritium Laboratory (UMTL) data report; and (2) an Excel file of all analytical results with a glossary of laboratory qualification codes, secondary validation codes, and secondary validation reason codes. The analytical results are as follows.

- **Tritium:** Tritium activities at Buckman Wells Nos. 1, 6, and 8 were nondetect (U flag) because the reported values were less than UMTL's minimum detectable activity. Analytical results are presented in Table 1.0. The EPA Maximum Contaminant Level (MCL) for tritium in drinking water is 20,000 pCi.L.

- **Field Parameters:** Results from the measurement of field parameters—pH, temperature, conductivity, and turbidity—are presented in Table 2.0. All results are below the EPA Secondary Drinking Water Regulations.

In summary, all results presented in this report are below EPA drinking water standards. If you would like additional information regarding this report, please contact Bob Beers at (505) 667-7969 (bbeers@lanl.gov).

If you would like additional information regarding this report, please contact Bob Beers at (505) 667-7969 (bbeers@lanl.gov).

Sincerely,

Michael J. Graham, Associate Director
Environmental Programs
Los Alamos National Laboratory
MG/PH/DK/RB:sm

Attachment: CD with the following items:
(1) UMTL data report
(2) Excel file of Tables 1.0–2.0 and glossary of laboratory qualification codes, secondary validation codes, and secondary validation reason codes (LA-UR-10-xxxx)

Cy: (w/enc.)
Claudia Borchert, City of Santa Fe, Santa Fe, NM
Robert Gallegos, City of Santa Fe, Santa Fe, NM
Michael Gonzales, City of Santa Fe, Santa Fe, NM
Margaret Ryan, NMED-DWB, Santa Fe, NM
Steve Yanicak, NMED-DOE-OB, MS M894
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IRM-RMMSO, MS A150 (date-stamped letter emailed)

Table 1.0
Buckman Wells Nos. 1, 6, and 8
Radionuclides

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Location Name	Start Date	Analyte	Anyl Meth Code	Fld Prep Code		Std Result	Units	Std Uncertainty (1s)	Std Mda	Lab Qual Code	Concat Flag Code	Lab Code	Sample Id
Buckman 1	3/9/2010	H-3	Generic:Low_Level_Tritium	UF	<	0.032	pCi/L	0.287	0.287	U	U	UMTL	Buckman1-10-12249
Buckman 6	3/9/2010	H-3	Generic:Low_Level_Tritium	UF	<	-0.128	pCi/L	0.287	0.287	U	U	UMTL	Buckman06-10-12250
Buckman 8	3/9/2010	H-3	Generic:Low_Level_Tritium	UF	<	0.255	pCi/L	0.287	0.287	U	U	UMTL	Buckman08-10-12251

Table 2.0
Buckman Wells Nos. 1, 6, and 8
Field Parameters

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Location Name	Start Date	Analyte	Analyte Desc	Fld Prep Code	Result	Units	Lab Code	Sample Id
Buckman 1	3/9/2010	SPEC_CONDC	Specific Conductance	UF	433	uS/cm	FLD	Buckman1-10-12249
Buckman 6	3/9/2010	SPEC_CONDC	Specific Conductance	UF	625	uS/cm	FLD	Buckman06-10-12250
Buckman 8	3/9/2010	SPEC_CONDC	Specific Conductance	UF	402	uS/cm	FLD	Buckman08-10-12251
Buckman 1	3/9/2010	TEMP	Temperature	UF	21.3	deg C	FLD	Buckman1-10-12249
Buckman 6	3/9/2010	TEMP	Temperature	UF	23.1	deg C	FLD	Buckman06-10-12250
Buckman 8	3/9/2010	TEMP	Temperature	UF	24	deg C	FLD	Buckman08-10-12251
Buckman 1	3/9/2010	TURB	Turbidity	UF	0.15	NTU	FLD	Buckman1-10-12249
Buckman 6	3/9/2010	TURB	Turbidity	UF	0.07	NTU	FLD	Buckman06-10-12250
Buckman 8	3/9/2010	TURB	Turbidity	UF	0.27	NTU	FLD	Buckman08-10-12251
Buckman 1	3/9/2010	pH	pH	UF	8.31	SU	FLD	Buckman1-10-12249
Buckman 6	3/9/2010	pH	pH	UF	6.98	SU	FLD	Buckman06-10-12250
Buckman 8	3/9/2010	pH	pH	UF	8.3	SU	FLD	Buckman08-10-12251

Delivery Order Number: Data Report 10-056
REPORT Date: 25 May 2010

Case Narrative for JOB 2752

Nine samples arrived on 18 March 2010. Paperwork for 11 samples was sent, but LANL REQ#10-2447, sample ID CAPA-10-12837 and 12894 sample bottles were not included in the shipment. The missing samples arrived on 26 March. Sample analyses began on 19 March 2010. Two laboratory reruns were performed as a internal labchecks; CAPA-10-12837 and CAPA-10-12894. The reruns agreed with original values. Analytical work and data package have been reviewed and are in compliance with the requirements of the SOW.

LANL Sample ID	Lab Sample ID	Date analyzed	Delivery Order Nr	Report Date	Parameter Name	Parameter Value	Uncertainty One Sigma	MDA	Unit of Measure	Data Qualifier	Enrichment Factor	Method of Analysis
CAPA-10-12807	9073	30-MAR-2010	10-056	25-MAY-2010	TRITIUM	0.07	0.09	0.09	TU	GOOD	30.9	Generic:LLEE
CAPA-10-12817	3077	31-MAR-2010	10-056	25-MAY-2010	TRITIUM	-0.09	0.09	0.09	TU	GOOD	30.9	Generic:LLEE
CAPA-10-12829	1077	30-MAR-2010	10-056	25-MAY-2010	TRITIUM	-0.02	0.09	0.09	TU	GOOD	30.9	Generic:LLEE
CAPA-10-12899	2076	30-MAR-2010	10-056	25-MAY-2010	TRITIUM	9.6	0.3	0.09	TU	GOOD	30.9	Generic:LLEE
CAPA-10-12899	9075	01-APR-2010	10-056	25-MAY-2010	TRITIUM	9.5	0.3	0.09	TU	REPLICATE	30.9	Generic:LLEE
CAPA-10-12899	7075	13-APR-2010	10-056	25-MAY-2010	TRITIUM	9.5	0.3	0.09	TU	RERUN	30.9	Generic:LLEE
CAPA-10-13087	2081	05-APR-2010	10-056	25-MAY-2010	TRITIUM	-0.05	0.09	0.09	TU	GOOD	30.9	Generic:LLEE
CAPA-10-13924	3081	05-APR-2010	10-056	25-MAY-2010	TRITIUM	-0.03	0.09	0.09	TU	GOOD	30.9	Generic:LLEE
BUCKMN1-10-12249	5080	05-APR-2010	10-056	25-MAY-2010	TRITIUM	0.01	0.09	0.09	TU	GOOD	30.9	Generic:LLEE
BCKMN06-10-12250	1082	05-APR-2010	10-056	25-MAY-2010	TRITIUM	-0.04	0.09	0.09	TU	GOOD	30.9	Generic:LLEE
BCKMN08-10-12251	9078	05-APR-2010	10-056	25-MAY-2010	TRITIUM	0.08	0.09	0.09	TU	GOOD	30.9	Generic:LLEE
CAPA-10-12837	4085	06-APR-2010	10-056	25-MAY-2010	TRITIUM	0.06	0.09	0.09	TU	GOOD	30.9	Generic:LLEE
CAPA-10-12837	5093	19-APR-2010	10-056	25-MAY-2010	TRITIUM	-0.09	0.09	0.09	TU	RERUN	30.9	Generic:LLEE
CAPA-10-12894	3082	06-APR-2010	10-056	25-MAY-2010	TRITIUM	47.7	1.6	0.09	TU	GOOD	30.9	Generic:LLEE
CAPA-10-12894	3089	15-APR-2010	10-056	25-MAY-2010	TRITIUM	45.9	1.6	0.09	TU	REPLICATE	30.9	Generic:LLEE

QC Deliverables

Preparation Blank:

Parameter Name	Parameter Result	Uncertainty, one sigma	Instrument ID
BEND 20	0.02 TU	0.09 TU	3076
BEND 21	0.00 TU	0.09 TU	4084
BEND 26	0.06 TU	0.09 TU	9090

Replicate Data:

Parameter Name	Parameter Result	Replicate Result	RER
CAPA-10-12899	9.6 TU	9.5 TU, 9.5 TU (RR)	0.17
CAPA-10-12894	47.7 TU	45.9 TU	0.47

Laboratory Control Samples:

Parameter Name	True Concentration	Measured Concentration	Percent Recovery	Instrument ID
BETA 6.3	23,764	24,357	101.37	4080
BETA 6.4	23,749	23,218	97.76	6083
BETA 7.2	23,713	23,311	98.30	8086